

MICROCHIP RESERVOIR DEVICES AND FACILITATED CORROSION OF ELECTRODES

Abstract of the Disclosure

Methods and devices are provided for enhancing corrosion of an electrode in a biocompatible fluid. The method comprises (1) placing a primary electrode and a counter electrode in an electroconductive biocompatible fluid to form an electrochemical cell; and (2) applying a time-varying potential, through the electrochemical cell, to the primary electrode. In a preferred embodiment, the primary electrode is metal and comprises a reservoir cap of a microchip device for the release of molecules or exposure of device reservoir contents. The potential preferably is characterized by a waveform having a maximum potential effectively anodic to meet or exceed the corrosion potential of the primary electrode. Also, the minimum potential preferably is effectively cathodic to be below the value where re-deposition of metal ions on the metal electrode can substantially occur, thereby corroding the metal electrode.